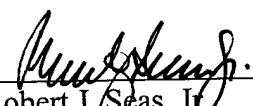


- RJ
comel.*
25. A method according to claim 23 in which the end face is curved.
 26. A method according to claim 20, wherein the first dielectric layer is patterned.
 27. A method according to claim 20, wherein the semiconductor and first dielectric form a common integrated waveguide device.

REMARKS

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



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APPENDIX**VERSION WITH MARKINGS TO SHOW CHANGES MADE****IN THE CLAIMS:**

The claims are amended as follows:

3. A junction structure according to claim 1-~~or 2~~, wherein the dielectric layer below the further waveguide region is silicon dioxide.
4. A junction structure according to claim 2-~~or claim 3~~, wherein the substrate comprises a layer of silicon dioxide and a layer of silicon.
5. A junction structure according to any of claims 2-~~to~~4, wherein the dielectric layer also extends over the light transmitting semiconductor layer.
7. A junction structure according to any of claims 2-~~to~~6, wherein there is provided an anti-reflective layer over said end face.
9. A junction structure according to claim 7-~~or claim 8~~, wherein the light transmitting semiconductor layer is directly covered by a layer of silicon dioxide on the side remote from the substrate.
10. A junction structure according to ~~any of~~ claims 2-~~to~~9, wherein the layer forming the further waveguide region is patterned.
11. A junction structure according to ~~any of~~ claims 2-~~to~~10, wherein the waveguide regions are in the form of rib waveguides.
12. A junction structure according to ~~any of~~ claims 2-~~to~~11, wherein the silicon nitride layer is of sub-micron thickness and is less than one tenth the thickness of the silicon layer.

13. A junction structure according to ~~any one of the preceding claims~~ 1 in which the said end face of the semiconductor waveguide at the junction is curved and forms a lens to direct transmitted light into the adjacent waveguide section.
14. An optical interferometer having parallel light transmitting paths, at least one of said paths including a waveguide junction structure as claimed in ~~any one of claims 1 to 13~~.
17. An interferometer according to claim 15-~~or claim~~ 16, wherein the or each silicon waveguide is a rib waveguide formed from a silicon-on-insulator wafer.
18. An interferometer according to ~~any of claims 15 to 17~~, wherein the insulating layer is silicon dioxide.
22. A method according to claim 20-~~or 21~~, wherein the second dielectric layer and the silicon nitride layer are deposited such that they also extend over the top surface of the semiconductor waveguide.
23. A method according to ~~any of claims 19 to 22~~, wherein an anti-reflective coating is deposited over the end face of the semiconductor waveguide before the second dielectric layer is deposited.
25. A method according to claim 23-~~or 24~~ in which the end face is curved.
26. A method according to ~~any of claims 20 to 25~~, wherein the first dielectric layer is patterned.
27. A method according to ~~any of claims 20 to 26~~, wherein the semiconductor and first dielectric form a common integrated waveguide device.